

Claims

What is claimed is:

5 1. A monitor comprising:

a display panel for displaying video images;

a displaying circuit for transforming video signals
transmitted from a computer into a video image and
displaying the video image on the display panel;

10 a connector electrically connected to an input port of the
displaying circuit for receiving the video signals
transmitted from the computer; and

a self testing circuit electrically connected to the input
port of the displaying circuit, the self testing
circuit comprising:

15 a testing signal generator for generating a testing
signal to test the monitor;

a switch circuit electrically connected between an
output port of the testing signal generator and the
input port of the displaying circuit, for
controlling output of the testing signal; and

20 a detecting circuit electrically connected to a
controlling port of the switch circuit for
detecting whether signals are transmitted from the
computer so as to control on/off states of the switch
circuit;

25 wherein when the detecting circuit detects the video
signals transmitted from the computer, the detecting
circuit switches off the switch circuit so as to avoid the
testing signal generated from the testing signal generator
being transmitted to the input port of the displaying
circuit, and when no video signals transmitted from the
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computer are detected, the detecting circuit switches on the switch circuit so as to allow the testing signal generated from the testing signal generator to be transmitted to the displaying circuit.

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2. The monitor of claim 1 wherein the connector is a 15 DSUB connector.

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3. The monitor of claim 1 wherein the testing signal is generated from a H-Blank signal by the testing signal generator and is transmitted to the displaying circuit, the displaying circuit transforms the testing signal into a testing image and displays the testing image on the display panel.

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4. A self testing circuit installed in a monitor for performing self-testing of the monitor, the monitor comprising a display panel for displaying video images, a displaying circuit for transforming video signals transmitted from a computer into a video image and displaying the video image on the display panel, and a connector electrically connected to an input port of the displaying circuit for receiving the video signals transmitted from the computer, the self testing circuit being electrically connected to the input port of the displaying circuit and comprising:

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a testing signal generator for generating a testing signal to test the monitor;

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a switch circuit electrically connected between an output port of the testing signal generator and the input port of the displaying circuit, for controlling output of the testing signal; and

a detecting circuit electrically connected to a
controlling port of the switch circuit for controlling
on/off states of the switch circuit;

5 wherein when the detecting circuit detects that the monitor
is connected with the computer, the detecting circuit
switches off the switch circuit so as to avoid the testing
signal generated from the testing signal generator being
transmitted to the input port of the displaying circuit,
and when the detecting circuit detects that the monitor
10 is not connected with the computer, the detecting circuit
switches on the switch circuit so as to allow the testing
signal generated from the testing signal generator to be
transmitted to the displaying circuit.

15 5. The self testing circuit of claim 4 wherein the video signals
transmitted from the computer are IBM VGA signals including
an EPS1 sub signal, and the connector includes a
corresponding EPS1 pin for receiving the EPS1 sub signal,
and when detecting that the monitor is connected with the
20 computer, the EPS1 pin is grounded and the detecting
circuit switches off the switch circuit, and when detecting
that the monitor is not connected with the computer, the
EPS1 pin is floated and the detecting circuit switches on
the switch circuit so as to allow the testing signal
25 generated from the testing signal generator to be
transmitted to the displaying circuit.

6. The self testing circuit of claim 4 wherein the controlling
port of the switch circuit is a transistor, and by
30 controlling on/off states of the transistor, the detecting
circuit allows the testing signal to be transmitted to the
input port of the displaying circuit or not.

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7. The self testing circuit of claim 4 wherein the testing
signal is generated from a H-Blank signal by the testing
signal generator and is transmitted to the displaying
5 circuit, the displaying circuit transforms the testing
signal into a testing image and displays the testing image
on the display panel.
8. A simulation method for simulating video signals to
generate a video image with an H-BLANK signal, (the monitor
10 comprising a display panel for displaying video images,
and a displaying circuit for sequentially transforming
video signals transmitted from a computer into,
corresponding video scanning lines, the displaying circuit
deciding the timing of displaying a video scanning line
15 on the display panel according to an H-BLANK signal so as
to form a corresponding video image out of a plurality of
video scanning lines, the simulation method comprising
steps of:
detecting whether the monitor is connected with the
20 computer; and
if the monitor is not connected with the computer, then
adjusting the amplitude of the H-BLANK signal and
transmitting the H-BLANK signal to the displaying
circuit so as to simulate video signals from the computer
25 and generate corresponding video images.
9. The simulation method of claim 8 wherein the monitor further
comprises a switch circuit and the H-BLANK signal is
transmitted to an input port of the displaying circuit via
30 the switch circuit, and when detecting that the monitor
is connected with the computer, the switch circuit will
be switched off to avoid the H-BLANK signal from being

transmitted to the input port of the displaying circuit,
and when detecting that the monitor is not connected with
the computer, the switch circuit will be switched on so
that the H-BLANK can be transmitted to the input port of
5 the displaying circuit.

10. The method of claim 8 wherein the waveform of the H-BLANK
signal is substantially similar to the waveform of a
full-white video signal so that when the H-BLANK signal
10 is transmitted to the input port of the displaying circuit,
the display panel displays a full-white video image.

11. A simulation method for simulating video signals to
generate a video image with an H-BLANK signal, (the monitor //
15 comprising a display panel for displaying video images,
and a displaying circuit for sequentially transforming
video signals transmitted from a computer into
corresponding video scanning lines, the displaying circuit
deciding the timing of displaying a video scanning line
20 on the display panel according to an H-BLANK signal so as
to form a corresponding video image out of a plurality of
video scanning lines, the simulation method comprising
steps of:
detecting whether video signals are transmitted from the
25 computer; and
if no signals transmitted from the computer are detected,
then adjusting the amplitude of the H-BLANK signal and
transmitting the H-BLANK signal to the displaying
circuit so as to simulate video signals from the computer
30 and generate corresponding video images.

12. The simulation method of claim 11 wherein the monitor

further comprises a switch circuit and the H-BLANK signal is transmitted to an input port of the displaying circuit via the switch circuit, and when signals transmitted from the computer are detected, the switch circuit will be
5 switched off to avoid the H-BLANK signal from being transmitted to the input port of the displaying circuit, and when no signals transmitted from the computer are detected, the switch circuit will be switched on so that the H-BLANK can be transmitted to the input port of the
10 displaying circuit.

13. The method of claim 11 wherein the waveform of the H-BLANK signal is substantially similar to the waveform of a full-white video signal so that when the H-BLANK signal is transmitted to the input port of the displaying circuit,
15 the display panel displays a full-white video image.